

Work Order ID 119044

\*119044\*

Page 1

May-06-14 8:10:27 AM

Item ID: D3439-101

D 3 4 3 9 - 1 0 1  
B 1 1 9 0 4 4

Accept

\*N900040100\*

Setup

Start

\*NS1\*

Revision ID:

Item Name: Mirror Assembly 8"

Stop

\*NS2\*

Start Date: 5/12/14 Start Qty: 20.00

\*20\*

Cust Item ID:

Required Date: 5/12/14 Req'd Qty: 20.00

\*20\*

Customer:

Reference:

Approvals: Process Plan: MLJ

Date: 4-05-07 Tooling:

Date:

Run

Start

\*NR1\*

QC:

Date: SPC (Y/N):

Date:

Stop

\*NR2\*

| Sequence ID/<br>Work Center ID | Operation<br>Description | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

|          |              |  |  |  |  |  |  |  |  |
|----------|--------------|--|--|--|--|--|--|--|--|
| Draw Nbr | Revision Nbr |  |  |  |  |  |  |  |  |
| D3439    | Rev B        |  |  |  |  |  |  |  |  |

100

\*100\*

PURCHASING

Purchasing

Memo

0.00

CL 14/05/08 20

Issue P/O: 24129

For Grote Mirror P/N: 12183

Possible Supplier: UAP/NAPA

Material release note is required

110

\*110\*

Packaging

Memo

0.00

L 14/05/08 (20)

Ensure Material Release Note is attached

115

\*115\*

QC

Memo

0.00

DAS  
27  
9-89  
4/5/12

Quality Control

20

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Date:

# **WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

## Work Order update only



| Work Order: _____                         |   |                                    | DISPOSITION  |  |  | AGAINST DEPARTMENT/PROCESS   |   |   |  |  |                                  |                                       |  |                                   |   |   |   |                                     |   |                                    |  |   |                                   |                                      |   |   |   |  |                                     |                                     |  |   |  |  |  |   |  |  |  |   |                                    |  |                                  |  |                                   |
|---|---|------------------------------------|--|--|--|--|---|---|--|--|----------------------------------|---------------------------------------|--|-----------------------------------|---|---|---|-------------------------------------|---|------------------------------------|--|---|-----------------------------------|--------------------------------------|---|---|---|--|-------------------------------------|-------------------------------------|--|---|--|--|--|---|--|--|--|---|------------------------------------|--|----------------------------------|--|-----------------------------------|
|   |   |                                    | Rework<br><input type="checkbox"/><br>Scrap<br><input type="checkbox"/><br>Use-as-is<br><input type="checkbox"/><br>Suspected Unapproved<br><input type="checkbox"/> | Skid-tube<br><input type="checkbox"/><br>Machining<br><input type="checkbox"/><br>Thermoforming<br><input type="checkbox"/><br>Large Fab<br><input type="checkbox"/> | Crosstube<br><input type="checkbox"/><br>Small Fab<br><input type="checkbox"/><br>Finishing<br><input type="checkbox"/><br>Composite<br><input type="checkbox"/> | Water Jet<br><input type="checkbox"/><br>Prod. Eng. Coor.<br><input type="checkbox"/><br>Rec/Store/Packaging<br><input type="checkbox"/><br>Supplier<br><input type="checkbox"/> | Engineering<br><input type="checkbox"/><br>Quality<br><input type="checkbox"/><br>Other<br><input type="checkbox"/> |   |  |  |                                  |                                       |  |                                   |   |   |   |                                     |   |                                    |  |   |                                   |                                      |   |   |   |  |                                     |                                     |  |   |  |  |  |   |  |  |  |   |                                    |  |                                  |  |                                   |
| Part No. _____                            |   |                                    | NCR No. _____  |  |  |  |   |   |  |  |                                  |                                       |  |                                   |   |   |   |                                     |   |                                    |  |   |                                   |                                      |   |   |   |  |                                     |                                     |  |   |  |  |  |   |  |  |  |   |                                    |  |                                  |  |                                   |
| Root Cause                                | Date  | Step                               | Qty  | Description of work order update or non-conformance  | Initial Chief Eng  | Action Description   | Sign & Date   | Verification                              | QC Inspector                                 |  |                                  |                                       |  |                                   |   |   |   |                                     |   |                                    |  |   |                                   |                                      |   |   |   |  |                                     |                                     |  |   |  |  |  |   |  |  |  |   |                                    |  |                                  |  |                                   |
| Design<br><input type="checkbox"/>        |   |                                    |  |  |  |  |   |   |  |  |                                  |                                       |  |                                   |   |   |   |                                     |   |                                    |  |   |                                   |                                      |   |   |   |  |                                     |                                     |  |   |  |  |  |   |  |  |  |   |                                    |  |                                  |  |                                   |
| Doc/Data<br><input type="checkbox"/>      |   |                                    |  |  |  |  |   |   |  |  |                                  |                                       |  |                                   |   |   |   |                                     |   |                                    |  |   |                                   |                                      |   |   |   |  |                                     |                                     |  |   |  |  |  |   |  |  |  |   |                                    |  |                                  |  |                                   |
| Equip/Tooling<br><input type="checkbox"/> |   |                                    |  |  |  |  |   |   |  |  |                                  |                                       |  |                                   |   |   |   |                                     |   |                                    |  |   |                                   |                                      |   |   |   |  |                                     |                                     |  |   |  |  |  |   |  |  |  |   |                                    |  |                                  |  |                                   |
| Handling/Pre<br><input type="checkbox"/>  |   |                                    |  |  |  |  |   |   |  |  |                                  |                                       |  |                                   |   |   |   |                                     |   |                                    |  |   |                                   |                                      |   |   |   |  |                                     |                                     |  |   |  |  |  |   |  |  |  |   |                                    |  |                                  |  |                                   |
| Material<br><input type="checkbox"/>      |   |                                    |  |  |  |  |   |   |  |  |                                  |                                       |  |                                   |   |   |   |                                     |   |                                    |  |   |                                   |                                      |   |   |   |  |                                     |                                     |  |   |  |  |  |   |  |  |  |   |                                    |  |                                  |  |                                   |
| Operator<br><input type="checkbox"/>      |   |                                    |  |  |  |  |   |   |  |  |                                  |                                       |  |                                   |   |   |   |                                     |   |                                    |  |   |                                   |                                      |   |   |   |  |                                     |                                     |  |   |  |  |  |   |  |  |  |   |                                    |  |                                  |  |                                   |
| Offset/Setup<br><input type="checkbox"/>  |   |                                    |  |  |  |  |   |   |  |  |                                  |                                       |  |                                   |   |   |   |                                     |   |                                    |  |   |                                   |                                      |   |   |   |  |                                     |                                     |  |   |  |  |  |   |  |  |  |   |                                    |  |                                  |  |                                   |
| Process<br><input type="checkbox"/>       |   |                                    |  |  |  |  |   |   |  |  |                                  |                                       |  |                                   |   |   |   |                                     |   |                                    |  |   |                                   |                                      |   |   |   |  |                                     |                                     |  |   |  |  |  |   |  |  |  |   |                                    |  |                                  |  |                                   |
| Supplier<br><input type="checkbox"/>      |   |                                    |  |  |  |  |   |   |  |  |                                  |                                       |  |                                   |   |   |   |                                     |   |                                    |  |   |                                   |                                      |   |   |   |  |                                     |                                     |  |   |  |  |  |   |  |  |  |   |                                    |  |                                  |  |                                   |
| Training<br><input type="checkbox"/>      |   |                                    |  |  |  |  |   |   |  |  |                                  |                                       |  |                                   |   |   |   |                                     |   |                                    |  |   |                                   |                                      |   |   |   |  |                                     |                                     |  |   |  |  |  |   |  |  |  |   |                                    |  |                                  |  |                                   |
| Transport<br><input type="checkbox"/>     |   |                                    |  |  |  |  |   |   |  |  |                                  |                                       |  |                                   |   |   |   |                                     |   |                                    |  |   |                                   |                                      |   |   |   |  |                                     |                                     |  |   |  |  |  |   |  |  |  |   |                                    |  |                                  |  |                                   |
| Unapproved<br><input type="checkbox"/>    |   |                                    |  |  |  |  |   |   |  |  |                                  |                                       |  |                                   |   |   |   |                                     |   |                                    |  |   |                                   |                                      |   |   |   |  |                                     |                                     |  |   |  |  |  |   |  |  |  |   |                                    |  |                                  |  |                                   |
| FAULT CATEGORY                            |   |                                    |  |  |  |  |   |   |  |  |                                  |                                       |  |                                   |   |   |   |                                     |   |                                    |  |   |                                   |                                      |   |   |   |  |                                     |                                     |  |   |  |  |  |   |  |  |  |   |                                    |  |                                  |  |                                   |
| Landing Gear                              |   |                                    | General  |  |  |  |   |   |  |  |                                  |                                       |  |                                   |   |   |   |                                     |   |                                    |  |   |                                   |                                      |   |   |   |  |                                     |                                     |  |   |  |  |  |   |  |  |  |   |                                    |  |                                  |  |                                   |
| Bending<br><input type="checkbox"/>       | Centre Not Concentric<br><input type="checkbox"/> | Cracks<br><input type="checkbox"/> | Crimp/Kink/Ripple/Wave<br><input type="checkbox"/>   | Cuffs<br><input type="checkbox"/>  | Crushing<br><input type="checkbox"/>   | Heat Treat<br><input type="checkbox"/>   | Inspection Strip in Tube<br><input type="checkbox"/>  | Marks/Chatter<br><input type="checkbox"/> | Turning Sequence<br><input type="checkbox"/> | Wave/Twist in Tube<br><input type="checkbox"/> | Bend<br><input type="checkbox"/> | BOM/Route<br><input type="checkbox"/> | Broken/Damage/Defect<br><input type="checkbox"/> | Burrs<br><input type="checkbox"/> | Contamination<br><input type="checkbox"/> | Countersink<br><input type="checkbox"/> | Cut Too Short<br><input type="checkbox"/> | Drawing<br><input type="checkbox"/> | Drill Holes<br><input type="checkbox"/> | Finish<br><input type="checkbox"/> | Fit/Function<br><input type="checkbox"/> | Folio/Program<br><input type="checkbox"/> | Grain<br><input type="checkbox"/> | Hardware<br><input type="checkbox"/> | Inspection Incomplete/Unqualified<br><input type="checkbox"/> | Instructions Incomplete/Unclear<br><input type="checkbox"/> | Misaligned/off center<br><input type="checkbox"/> | Mislabeled<br><input type="checkbox"/> | Misread<br><input type="checkbox"/> | Off-set<br><input type="checkbox"/> | Out of Calibration<br><input type="checkbox"/> | Out of Sequence<br><input type="checkbox"/> | Outside Dimensions<br><input type="checkbox"/> | Over/Under tolerance<br><input type="checkbox"/> | Part Incorrect<br><input type="checkbox"/> | Part Lost/Missing<br><input type="checkbox"/> | Part Moved<br><input type="checkbox"/> | Positioned Wrong<br><input type="checkbox"/> | Power Loss/Surge<br><input type="checkbox"/> | Pressure/Forced<br><input type="checkbox"/> | Set-up<br><input type="checkbox"/> | Temperature/Cure<br><input type="checkbox"/> | Weld<br><input type="checkbox"/> | Wrong Stock Pulled<br><input type="checkbox"/> | Other<br><input type="checkbox"/> |

Work Order ID 119044

\*119044\*

Page 2

May-06-14 8:10:27 AM

Item ID: D3439-101

Accept

\*N900040100\*

Setup

Start

\*NS1\*

Revision ID:

Item Name: Mirror Assembly 8"

Stop

\*NS2\*

Start Date: 5/12/14

Start Qty: 20.00

\*20\*

Cust Item ID:

Required Date: 5/12/14

Req'd Qty: 20.00

\*20\*

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_

Date: \_\_\_\_\_

Tooling: \_\_\_\_\_

Date: \_\_\_\_\_

Run

Start

\*NR1\*

QC: \_\_\_\_\_

Date: \_\_\_\_\_

SPC (Y/N): \_\_\_\_\_

Date: \_\_\_\_\_

Stop

\*NR2\*

Sequence ID/  
Work Center ID  
120

\*120\*

Small Fab

Small Fab

Operation  
Description

Small Fab

Memo

Set Up/  
Run Hours  
0.00

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

DAS

36

8-89

20x

14/07/14

130

\*130\*

QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

DAS  
21  
9-89  
M 17 14

Memo

0.00

20

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only **WORK ORDER NON-CONFORMANCE / UPDATE**

| Work Order: _____        |                      |                                   | DISPOSITION  |  |  | AGAINST DEPARTMENT/PROCESS                                       |                                 |              |              |  |  |
|--------------------------|----------------------|-----------------------------------|--|--|--|--|---------------------------------|--------------|--------------|--|--|
|                          |                      |                                   | Rework<br>Scrap<br>Use-as-is<br>Suspected Unapproved | Skid-tube<br>Machining<br>Thermoforming<br>Large Fab | Crosstube<br>Small Fab<br>Finishing<br>Composite | Water Jet<br>Prod. Eng. Coor.<br>Rec/Store/Packaging<br>Supplier | Engineering<br>Quality<br>Other |              |              |  |  |
| Part No. _____           |                      | NCR No. _____                     |  |  |  |  |                                 |              |              |  |  |
| Root Cause               | Date                 | Step                              | Qty  | Description of work order update or non-conformance  | Initial Chief Eng                                | Action Description   | Sign & Date                     | Verification | QC Inspector |  |  |
| Design                   |                      |                                   |  |  |  |  |                                 |              |              |  |  |
| Doc/Data                 |                      |                                   |  |  |  |  |                                 |              |              |  |  |
| Equip/Tooling            |                      |                                   |  |  |  |  |                                 |              |              |  |  |
| Handling/Pre             |                      |                                   |  |  |  |  |                                 |              |              |  |  |
| Material                 |                      |                                   |  |  |  |  |                                 |              |              |  |  |
| Operator                 |                      |                                   |  |  |  |  |                                 |              |              |  |  |
| Offset/Setup             |                      |                                   |  |  |  |  |                                 |              |              |  |  |
| Process                  |                      |                                   |  |  |  |  |                                 |              |              |  |  |
| Supplier                 |                      |                                   |  |  |  |  |                                 |              |              |  |  |
| Training                 |                      |                                   |  |  |  |  |                                 |              |              |  |  |
| Transport                |                      |                                   |  |  |  |  |                                 |              |              |  |  |
| Unapproved               |                      |                                   |  |  |  |  |                                 |              |              |  |  |
| FAULT CATEGORY           |                      |                                   |  |  |  |  |                                 |              |              |  |  |
| Landing Gear             |                      |                                   | General  |  |  |  |                                 |              |              |  |  |
| Bending                  | Bend                 | Folio/Program                     | Outside Dimensions                                   | Pressure/Forced                                      |  |  |                                 |              |              |  |  |
| Centre Not Concentric    | BOM/Route            | Grain                             | Over/Under tolerance                                 | Set-up   |  |  |                                 |              |              |  |  |
| Cracks                   | Broken/Damage/Defect | Hardware                          | Part Incorrect                                       | Temperature/Cure                                     |  |  |                                 |              |              |  |  |
| Crimp/Kink/Ripple/Wave   | Burrs                | Inspection Incomplete/Unqualified | Part Lost/Missing                                    | Weld   |  |  |                                 |              |              |  |  |
| Cuffs                    | Contamination        | Instructions Incomplete/Unclear   | Part Moved   | Wrong Stock Pulled                                   |  |  |                                 |              |              |  |  |
| Crushing                 | Countersink          | Misaligned/off center             | Positioned Wrong                                     |  |  |  |                                 |              |              |  |  |
| Heat Treat               | Cut Too Short        | Mislabeled                        | Power Loss/Surge                                     | Other  |  |  |                                 |              |              |  |  |
| Inspection Strip in Tube | Drawing              | Misread                           |  |  |  |  |                                 |              |              |  |  |
| Marks/Chatter            | Drill Holes          | Off-set                           |  |  |  |  |                                 |              |              |  |  |
| Turning Sequence         | Finish               | Out of Calibration                |  |  |  |  |                                 |              |              |  |  |
| Wave/Twist in Tube       | Fit/Function         | Out of Sequence                   |  |  |  |  |                                 |              |              |  |  |

Work Order ID 119044

\*119044\*

Page 3

May-06-14 8:10:27 AM

Item ID: D3439-101

Accept

\*N900040100\*

Setup Start

\*NS1\*

Revision ID:

Item Name: Mirror Assembly 8"

Stop

\*NS2\*

Start Date: 5/12/14

Start Qty: 20.00

\*20\*

Cust Item ID:

Required Date: 5/12/14

Req'd Qty: 20.00

\*20\*

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

\*NR1\*

QC:

Date:

SPC (Y/N):

Date:

Stop

\*NR2\*

Sequence ID/  
Work Center ID

Operation  
Description

140

Identify as per dwg & Stock Location:

ST381

\*140\*

Packaging

Packaging

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

0.00

20x 14-7-14

DAB  
26  
9-89

150

QC21- Final Inspection - Work Order Release

0.00

M15 14-07-16

\*150\*

QC

Quality Control

Memo

0.00

DR 4-7-14

DQA:

Date:



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date:

Work Order update only 

Work Order: \_\_\_\_\_  
 Part No. \_\_\_\_\_  
 NCR No. \_\_\_\_\_

**DISPOSITION**

Rework  
 Scrap  
 Use-as-is  
 Suspected Unapproved

**AGAINST DEPARTMENT/PROCESS**

Skid-tube  
 Machining  
 Thermoforming  
 Large Fab

Crosstube  
 Small Fab  
 Finishing  
 Composite

Water Jet  
 Prod. Eng. Coor.  
 Rec/Store/Packaging  
 Supplier

Engineering  
 Quality  
 Other

| Root Cause    | Date | Step | Qty | Description of work order update or non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
|---------------|------|------|-----|---|-------------------|--------------------|-------------|--------------|--------------|
| Design        |      |      |     |   |                   |                    |             |              |              |
| Doc/Data      |      |      |     |   |                   |                    |             |              |              |
| Equip/Tooling |      |      |     |   |                   |                    |             |              |              |
| Handling/Pre  |      |      |     |   |                   |                    |             |              |              |
| Material      |      |      |     |   |                   |                    |             |              |              |
| Operator      |      |      |     |   |                   |                    |             |              |              |
| Offset/Setup  |      |      |     |   |                   |                    |             |              |              |
| Process       |      |      |     |   |                   |                    |             |              |              |
| Supplier      |      |      |     |   |                   |                    |             |              |              |
| Training      |      |      |     |   |                   |                    |             |              |              |
| Transport     |      |      |     |   |                   |                    |             |              |              |
| Unapproved    |      |      |     |   |                   |                    |             |              |              |

**FAULT CATEGORY**

|              |                          |                          |                          |                                   |                          |                      |                          |                    |  |  |
|--------------|--------------------------|--------------------------|--------------------------|-----------------------------------|--------------------------|----------------------|--------------------------|--------------------|--|--|
| Landing Gear | General                  |                          |                          |                                   |                          |                      |                          |                    |  |  |
|              | <input type="checkbox"/> | Bending                  | <input type="checkbox"/> | Folio/Program                     | <input type="checkbox"/> | Outside Dimensions   | <input type="checkbox"/> | Pressure/Forced    |  |  |
|              | <input type="checkbox"/> | Centre Not Concentric    | <input type="checkbox"/> | Grain                             | <input type="checkbox"/> | Over/Under tolerance | <input type="checkbox"/> | Set-up             |  |  |
|              | <input type="checkbox"/> | Cracks                   | <input type="checkbox"/> | Hardware                          | <input type="checkbox"/> | Part Incorrect       | <input type="checkbox"/> | Temperature/Cure   |  |  |
|              | <input type="checkbox"/> | Crimp/Kink/Ripple/Wave   | <input type="checkbox"/> | Inspection Incomplete/Unqualified | <input type="checkbox"/> | Part Lost/Missing    | <input type="checkbox"/> | Weld               |  |  |
|              | <input type="checkbox"/> | Cuffs                    | <input type="checkbox"/> | Instructions Incomplete/Unclear   | <input type="checkbox"/> | Part Moved           | <input type="checkbox"/> | Wrong Stock Pulled |  |  |
|              | <input type="checkbox"/> | Crushing                 | <input type="checkbox"/> | Misaligned/off center             | <input type="checkbox"/> | Positioned Wrong     | <input type="checkbox"/> |                    |  |  |
|              | <input type="checkbox"/> | Heat Treat               | <input type="checkbox"/> | Mislabeled                        | <input type="checkbox"/> | Power Loss/Surge     | <input type="checkbox"/> | Other              |  |  |
|              | <input type="checkbox"/> | Inspection Strip in Tube | <input type="checkbox"/> | Misread                           |                          |                      |                          |                    |  |  |
|              | <input type="checkbox"/> | Marks/Chatter            | <input type="checkbox"/> | Off-set                           |                          |                      |                          |                    |  |  |
|              | <input type="checkbox"/> | Turning Sequence         | <input type="checkbox"/> | Out of Calibration                |                          |                      |                          |                    |  |  |
|              | <input type="checkbox"/> | Wave/Twist in Tube       | <input type="checkbox"/> | Out of Sequence                   |                          |                      |                          |                    |  |  |
|              |                          |                          |                          |                                   |                          |                      |                          |                    |  |  |
|              |                          |                          |                          |                                   |                          |                      |                          |                    |  |  |
|              |                          |                          |                          |                                   |                          |                      |                          |                    |  |  |

## Picklist Print

May-06-14 8:10:26 AM

Page 1

**Work Order ID:** 119044

\*119044\*  
\*D3439-101\*

**Parent Item:** D3439-101

**Parent Item Name:** Mirror Assembly 8'

Start Date: 5/12/14

Required Date: 5/12/14

**Start Qty:** 20.00

**Required Qty:** 20.00

**Comments:** IPP A05.07.20 New issue KJ/JLM  
per dwg RevB DD verf:ec

IPP Rev:B 10.09.08

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only 

| Work Order: _____  |      |      | DISPOSITION                                   |  | AGAINST DEPARTMENT/PROCESS         |   |                                      |              |              |   |  |
|--|------|------|---|--|------------------------------------|---|--------------------------------------|--------------|--------------|---|--|
|  |      |      | Rework <input type="checkbox"/>               | Skid-tube <input type="checkbox"/>   | Crosstube <input type="checkbox"/> | Water Jet <input type="checkbox"/>  | Engineering <input type="checkbox"/> |              |              |   |  |
|  |      |      | Scrap <input type="checkbox"/>                | Machining <input type="checkbox"/>   | Small Fab <input type="checkbox"/> | Prod. Eng. Coor. <input type="checkbox"/>   | Quality <input type="checkbox"/>     |              |              |   |  |
|  |      |      | Use-as-is <input type="checkbox"/>            | Thermoforming <input type="checkbox"/>   | Finishing <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/>  | Other <input type="checkbox"/>       |              |              |   |  |
|  |      |      | Suspected Unapproved <input type="checkbox"/> | Large Fab <input type="checkbox"/>   | Composite <input type="checkbox"/> | Supplier <input type="checkbox"/>   |                                      |              |              |   |  |
| Root Cause   | Date | Step | Qty   | Description of work order update or non-conformance  | Initial Chief Eng                  | Action Description  | Sign & Date                          | Verification | QC Inspector |   |  |
| Design   |      |      |   |  |                                    |   |                                      |              |              |   |  |
| Doc/Data   |      |      |   |  |                                    |   |                                      |              |              |   |  |
| Equip/Tooling  |      |      |   |  |                                    |   |                                      |              |              |   |  |
| Handling/Pre   |      |      |   |  |                                    |   |                                      |              |              |   |  |
| Material   |      |      |   |  |                                    |   |                                      |              |              |   |  |
| Operator   |      |      |   |  |                                    |   |                                      |              |              |   |  |
| Offset/Setup   |      |      |   |  |                                    |   |                                      |              |              |   |  |
| Process  |      |      |   |  |                                    |   |                                      |              |              |   |  |
| Supplier   |      |      |   |  |                                    |   |                                      |              |              |   |  |
| Training   |      |      |   |  |                                    |   |                                      |              |              |   |  |
| Transport  |      |      |   |  |                                    |   |                                      |              |              |   |  |
| Unapproved   |      |      |   |  |                                    |   |                                      |              |              |   |  |
| FAULT CATEGORY   |      |      |   |  |                                    |   |                                      |              |              |   |  |
| <b>Landing Gear</b><br><input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crimp/Kink/Ripple/Wave<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Crushing<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Inspection Strip in Tube<br><input type="checkbox"/> Marks/Chatter<br><input type="checkbox"/> Turning Sequence<br><input type="checkbox"/> Wave/Twist in Tube |      |      |   | <b>General</b><br><input type="checkbox"/> Bend<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damage/Defect<br><input type="checkbox"/> Burrs<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Fit/Function |                                    | <input type="checkbox"/> Folio/Program<br><input type="checkbox"/> Grain<br><input type="checkbox"/> Hardware<br><input type="checkbox"/> Inspection Incomplete/Unqualified<br><input type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Misaligned/off center<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Off-set<br><input type="checkbox"/> Out of Calibration<br><input type="checkbox"/> Out of Sequence |                                      |              |              | <input type="checkbox"/> Outside Dimensions<br><input type="checkbox"/> Over/Under tolerance<br><input type="checkbox"/> Part Incorrect<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Part Moved<br><input type="checkbox"/> Positioned Wrong<br><input type="checkbox"/> Power Loss/Surge<br><br><hr/><br><hr/><br><hr/> |  |
|  |      |      |   |  |                                    |   |                                      |              |              | <input type="checkbox"/> Pressure/Forced Set-up<br><input type="checkbox"/> Temperature/Cure Weld<br><input type="checkbox"/> Wrong Stock Pulled  |  |
|  |      |      |   |  |                                    |   |                                      |              |              | <input type="checkbox"/> Other  |  |

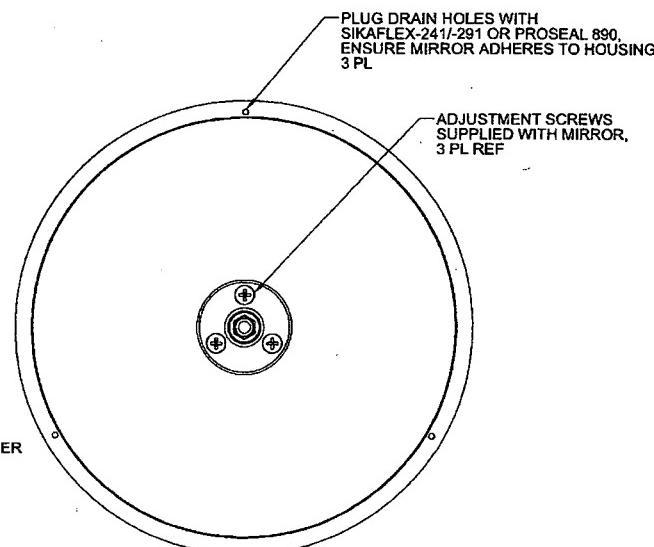
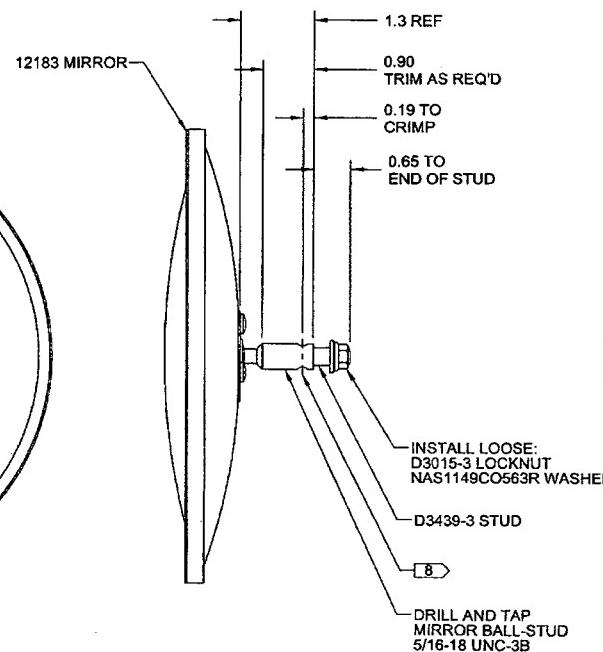
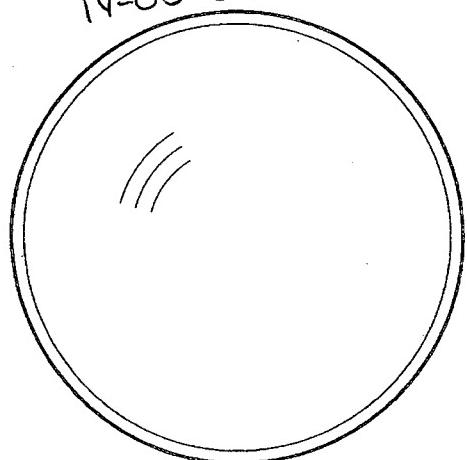
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WITHOUT NOTICE  
WORK ORDER

NO. 119044 MLJ  
14-05-07



### D3439-101 MIRROR ASSEMBLY

NOTES:

- 1) MATERIAL: MIRROR= 8" ROUND CONVEX MIRROR W/ STAINLESS STEEL CASE  
CENTER-MOUNT BALL-STUD W/ 1/4-20 X 1" DEEP FEMALE THREAD  
GROTE INDUSTRIES, 2600 LANIER DRIVE, MADISON, INDIANA 47250
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3439-101" USING REMOVEABLE TAG
- 7) WEIGHT: 1.18 lbs
- 8) TO INSTALL D3439-3 STUD:
  - APPLY LOCKTITE 262 TO THREADS BEING INSTALLED INTO MIRROR BALL-STUD
  - THREAD D3439-3 STUD INTO MIRROR BALL-STUD
  - CRIMP MIRROR BALL-STUD ON OPPOSING SIDES, 0.19 FROM END AS ILLUSTRATED USING TOOL DT8317
  - CRIMP TO DEPTH OF 0.015-0.030 USING R0.125

|            |   |  |              |
|------------|---|--|--------------|
| B          | REDRAW, ADD -3 (WAS PURCHASED/TRIMMED BOLT),<br>RMV LPS | CP   | 10.07.20     |
| A          | NEW ISSUE   | CP   | 05.05.27     |
| REV.       | DESCRIPTION   | BY   | DATE         |
| DESIGN     | 90  | DART AEROSPACE LTD   |              |
| DRAWN      | GP  | HAWKESBURY, ONTARIO, CANADA  |              |
| CHECKED    | MA  | DRAWING NO.  | REV. B       |
| MFG. APPR. | JAD   | D3439  | SHEET 1 OF 2 |
| APPROVED   | JAD   | TITLE  | SCALE        |
| DE APPR.   |   | MIRROR ASSEMBLY  | NTS          |
| DATE       | 10.07.20  | COPYRIGHT © 2010 BY DART AEROSPACE LTD.<br>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS IMPLIED ON THE EXPRESS CONDITION THAT IT IS<br>NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT<br>WRITTEN PERMISSION FROM DART AEROSPACE LTD. |              |

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2010-09-07  
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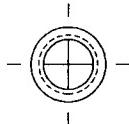
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B

B



**D3439-3 STUD** ▲

A

A

**NOTES:**

- 1) MATERIAL: AISI 303 STAINLESS STEEL ROUND BAR PER ASTM A582  
REF DART SPEC M303R
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.03 lbs

8 7 6 5 4 3 2 1

8 7 6 5 4 3 2 1

|            |                    |  |
|------------|--------------------|--|
| DESIGN     | <i>[Signature]</i> | <b>DART AEROSPACE LTD</b>              |
| DRAWN      | <i>[Signature]</i> | HAWKESBURY, ONTARIO, CANADA            |
| CHECKED    | <i>[Signature]</i> | DRAWING NO. <b>D3439</b> REV. B        |
| MFG. APPR. | <i>[Signature]</i> | SHEET 2 OF 2                           |
| APPROVED   | <i>[Signature]</i> | TITLE <b>MIRROR ASSEMBLY</b> SCALE NTS |
| DE APPR.   | <i>[Signature]</i> | DATE <b>10.07.20</b>                   |

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2010-09-07  
*[Handwritten signature]*



Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

## PURCHASE ORDER

Purchase Order ID **PO24129**

Purchase Order Date 5/8/2014  
PO Print Date 5/8/2014

Page Number 2 of 3

Order From : VC-BCI001

B C INDUSTRIAL  
14 OLD FOREST  
KIRKLAND, QUEBEC H9J 2Z8

Ship To : DART AEROSPACE LTD  
1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

Contact Name  
**Vendor Phone** 514-585-8907  
  
**Ship To Contact**  
**Ship To Phone**  
**Ship Via:** FedEx PI collect  
**Ship Acct:**

**Buyer** Chantal Lavoie  
**Customer POID**  
**Customer Tax #** 10127-2607  
**Terms** Net 10  
**Currency** CAD  
**FOB** FCA - (Free Carrier)

Deliver To: DAN.P

|   |       |              |                               |               |         |          |
|---|-------|--------------|-------------------------------|---------------|---------|----------|
| 4 | 12183 | Grote Mirror | 5/14/2014<br>Yes<br>5/14/2014 | 20.00<br>Each | \$19.99 | \$399.80 |
|---|-------|--------------|-------------------------------|---------------|---------|----------|

AS PER DWG D3439 REV. B  
B119044

NOTE: PROCUREMENT QUALITY CLAUSES REQUIRED FOR LINE 4 AND 5

|   |         |        |                               |                |        |         |
|---|---------|--------|-------------------------------|----------------|--------|---------|
| 5 | 658-065 | Washer | 5/14/2014<br>Yes<br>5/14/2014 | 200.00<br>Each | \$0.49 | \$98.00 |
|---|---------|--------|-------------------------------|----------------|--------|---------|

AS PER DWG D3904 REV. B  
B118903

Line Total: \$399.80

Line Total: \$98.00

Note:

BC Industrial..... 14 Old Forest....Kirkland....Quebec....H9J-2Z8....Canada  
Phone 514-585-8907 Email bcpc1@sympatico.ca

Certificate of Compliance

May 9 2014

Dart Aerospace  
1270 Aberdeen  
Hawkesbury, Quebec  
K6A-1K7

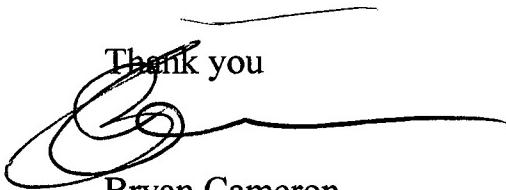
ATT: Chantal Lavoie

This is to confirm that the parts delivered on our PS 140509DA

|                     |                |                |
|---------------------|----------------|----------------|
| Grote mirror #12183 | PO line item 4 |                |
| washers             | 658-065        | PO line item 5 |

conforms to the specifications outlined on your purchase  
order 24129

\_\_\_\_\_  
Thank you

  
Bryan Cameron

#TPS/GST-142640622  
#TVQ/PST-1021696907

Terms 2%10 Net 30